TRANSACTIONS

OF THE

NORTH OF ENGLAND INSTITUTE

OF

MINING AND MECHANICAL ENGINEERS.

GENERAL INDEX,

VOLUMES I. TO XXV.

1852 TO 1876.

Newcastle-upon-Tyne:
A. REID, PRINTING COURT BUILDINGS, AKENSIDE HILL.

1877.

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NORTH OF ENGLAND INSTITUTE

OF

MINING AND MECHANICAL ENGINEERS.

FOUNDED 1852.

INCORPORATED BY ROYAL CHARTER 1876.

GENERAL INDEX TO TRANSACTIONS.

VOLUMES ONE TO TWENTY-FIVE.

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Bailes, John, elected Sept. 5, 1868.

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Bailey, S., elected June 2, 1859; contributed a paper on—Advantage of employing steam for underground haulage, x. 25.

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Barrow, R., elected 1861, resigned 1865.

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BLACKSHAW, W., elected Aug. 6, 1870; resigned 1872.

BLACKWELL, J. K., elected 1861, resigned 1867.

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Boot, J. T., elected April 1, 1871.

Booth, P., elected 1853, resigned 1855.

Booth, R. L., elected graduate 1864, member 1870.

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Bourcuille, M. de, elected hon. member 1853.

Bourne, C. R., elected 1861, resigned 1862.

Bourne, P., elected 1854.

Bourne, S., elected August 21, 1852; died 1876.

Bourne, T. R., elected October 4, 1860; resigned 1870.

Bourne, T. W., elected Sept. 11, 1875.

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Bowie, A., elected 1863, resigned 1867.

Bowkley, S., elected 1861, resigned 1865.

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Boyd, E. F., elected Treasurer August 21, 1852; President 1869–72; *ex-officio* Member of Council; contributed on the following subjects—Geology of part of the Carboniferous Limestone series of North Northumberland, ix. 185—Wash or drift through a portion of the coal-field of Durham, xiii. 69.—Presidential inaugural address, xix. 41.—Inaugural address, opening of the Wood Memorial Hall, xxi. 223.—On the coal-measures and oil produce of America, xxv. 145.

Boyd, N., elected March 3, 1864; resigned 1872.

Boyd, R. F., elected graduate November 6, 1869; member 1875.

Boyd, Wm., elected February 2, 1867; contributed paper on rivetting, xviii. 9.

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Bradford, G., elected October 11, 1873.

Brady, Dr. G. S., elected hon. member, November 6, 1875.

Bragge, G. S., elected student July 2, 1872.

Braithwaite, T., elected 1857, resigned 1866.

Breckon, J. R., elected September 3, 1864.

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Brettell, T., elected November 3, 1866.

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Broadbent, J., elected March 7, 1867; resigned 1873.

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Brough, L., elected hon. member 1855, to date.

Brough, T., elected student, February 1, 1873.

Brougham, Hon. Wilfred, elected May 6, 1871; resigned 1874.

Broughton, J., elected May 6, 1876.

Browell, W. H., elected graduate Oct. 2, 1869; resigned 1871.

Brown Edward, elected March 7, 1874.

Brown, J., elected October 5, 1854; resigned 1869.

Brown, J., elected 1856, resigned 1864.

Brown, J., elected February 5, 1876.

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Brown, J. N., elected 1861.

Brown, R., elected October 1, 1863; died 1875.

Brown, T. F., elected 1861; contributed a paper on the South Wales coal-field, xxiii. 197.—Vote of thanks to, as President of the South Wales Institute of Engineers, xxiv. 44.

Brown, M. W., elected student Oct. 7, 1871.

Browne, B. C., elected Oct. 1, 1870.

Browne, W. R., elected May 6, 1871; resigned 1874.

Bruce, J., elected student February 14, 1874.

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Bruton, Wm., elected Feb. 6, 1869.

Bryham, W., elected August 1, 1861.

Bryham, Jun., W., elected August 3, 1865.

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Bunn, R. T., elected Dec. 6, 1873; resigned 1876.

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Bunning, T. W., elected 1864, Secretary from 1867, contributed on the following subjects—Experiments at Keyham on Hartley and Welsh coals, xiv. 47.—

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Burn, J., elected Aug. 2, 1866.

Burnley, E. F., elected student April 11, 1874.

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Byerley, R. Reed, elected graduate Mar. 5, 1870.

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Carr, C. B., elected student May 6, 1876.

Carr, J., elected 1855; resigned 1857.

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Clark, G., elected Dec. 7, 1867.

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Clark, H. P., elected student March 4, 1871; resigned 1874.

Clark, R., elected student Sep. 11, 1875.

Clark, R. B., elected student May 3, 1873.

Clark, R. P., elected Nov. 7, 1868.

Clark, W., elected April 7, 1866.

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COBBOLD, C. H., elected student May 3, 1873.

COCHRANE, A. B., elected 1856, resigned 1859.

COCHRANE, B., elected December 6, 1866.

COCHRANE, C., elected June 3, 1857.

COCHRANE, H., elected March 4, 1871.

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Cooksey, J. H., elected Aug. 3, 1865; resigned 1870.

Cookson, N., elected 1864, resigned 1868.

Cooper, A., elected graduate Dec. 4, 1869; resigned 1870.

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Cope, J., elected Aug. 5, 1853; died 1870.

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Cope, W. S., elected May 2, 1867; died 1871.

Cope, W. S., elected April 1, 1871; died 1872.

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Cordner, R., elected 1854, resigned 1858, re-elected 1859, resigned 1864.

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Coulson, F., elected graduate Aug. 1, 1868; member, 1873.

Coulson, W., elected Oct. 1, 1852.—Contributed a paper on the precautions necessary to secure the stability of close-topped tubbing, xi. 9.—Operations for clearing Hartley Pit after the accident entrusted to, xi. 148.

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Cowey, J., elected Nov. 2, 1872.

Cowlishaw, J., elected graduate, March 7, 1867; member 1870.

Cox, J. H., elected Feb. 6, 1875.

Cox, L. C., elected student April 1, 1876.

CROOK BANK COLLIERY.

Coxe, E. B., elected Feb. 1, 1873; life member 1874.

Coxon, A., elected Dec. 6, 1866; resigned 1868.

Coxon, F., elected 1855; resigned 1863.

Coxon, H., elected Sept. 2, 1871.

Coxon, S. B., elected June 5, 1856.

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Craig, W. Y., elected Nov. 3, 1866.

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Crawford, J., elected Aug. 21, 1852; member of council in 1852; resigned 1853.

Crawford, T., elected Aug. 21, 1852.

Crawford, T., elected Sept. 3, 1864.

Crawford, T., jun., elected Aug. 7., 1869.

Crawford, T. W., elected student Dec. 4, 1875.

Crawhall, G. E., elected 1855, resigned 1868.

Crawshay, Edwin, elected 1861, resigned 1866.

Crawshay, E., elected Dec. 4, 1869.

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Creswick, T., elected 1856, resigned 1863.

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Crofton, J. G., elected Feb. 7, 1861.

Crone, E. W., elected graduate March 5, 1870; member 1876.

Crone, J. R., elected Feb. 1, 1868.

Crone, S. C., elected 1853; on council 1868 to date; contributed on the following subjects:—Pillar working in Northumberland and Durham collieries, ix. 17.—Boiler explosions at Seaton Burn, xi. 27.

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Cross, John, elected June 5, 1869.

Croudace, C., elected 1853, resigned 1857.

Croudace, C. J., elected Nov. 2, 1872.

Croudace, J., elected June 7, 1873.

Croudace, T., elected 1862.

Croudace, T. D., elected March 7, 1867.

Crow, G., elected Feb. 2, 1867; resigned 1870.

Crudace, J., elected 1853, resigned 1862.

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Curry, J., elected 1864, resigned 1871.

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Cuthbert, W., elected Aug. 1, 1874.

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DABURON.

Daburon, M., elected May 1, 1875.

Daglish, John, F.G.S., elected Aug. 21, 1852; on Council 1860 to 1869; Vice-President 1869-70, 1871-74, and 1875 to date; donation of photographic prints, vii. 181.—Contributed on the following subjects:—The calorific value of large and small coals, iv. 283.—Strength of wire ropes and chains, vii. 211.—Action of the gas on iron in upcast shafts, viii. 179.—Construction of ventilating furnaces, ix. 131.—Various methods of ascertaining the velocities of currents of air in mines, x. 207.—Action of the furnace gases on upcast shafts, xi. 19.—Donesthorpe, Firth, and Ridley's coal-cutting machine, xii. 63.—Ventilation of underground boilers, 79.—Paradoxes in ventilation, 93.—Geology of the magnesian limestone of Durham, xiii. 205.—Minerals and salts found in coal-pits, 219.—Improvements in water-gauges, xv. 103.—Broadbent's safety-cage, xvi. 33.—Haulage underground, 53.—New application of the water-gauge, xvii. 27.—On the counter-balancing of winding-engines, xx. 205.—Translation of paper by M. F. L. Cornet, on the application of machines worked by compressed air, in the collieries of Sars-Longchamps and Bouvy, xxi. 199.—Discussed, xxii. 20, 30, 72.—Some remarks on the beds of ironstone occurring in Lincolnshire, xxiv. 23.—On the application of counter-balancing and expansion to winding-engines, xxv. 201.

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Dakers, J., elected April 11, 1874.

Dakers, T., elected 1861; resigned 1865.

Dakers, W., elected April 7, 1866.

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Dakers, W., Jun., elected Oct. 3, 1874.

Dale, David, elected Feb. 5, 1870.

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D'Andrimont, T., elected Sept. 3, 1870.

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Daniel, W., elected June 4, 1870.

Darling, F., elected Nov. 6, 1875.

Darlington, James, elected Aug. 1, 1861; resigned 1871.

Darlington, John, elected April 1, 1865.

Darlington, J., elected student Nov. 7, 1874.

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Davey, A., elected Feb. 5, 1870; resigned 1873.

Davey, H., elected Oct. 11, 1873; contributed a paper on the differential expansive pumping-engine, xxiii. 3.

Davidson, James, elected 1854.

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Davison, A., elected Feb. 4, 1858.

Davison, G., elected March 4, 1876.

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Dawson, T. J., elected April 6, 1867; resigned 1873.

Day, J. W., elected 1853, resigned 1862.

Day, W. H., elected March 6, 1869

Deacon, M., elected Sept. 11, 1875.

Dean of Durham, The, elected hon. mem. Feb. 3, 1872.—Address on the inauguration of the College of Physical Science, end of vol. xxi.

Deane, J., elected 1857, resigned 1865.

Dechen, H. von, elected hon. mem. 1853.

Dees, J., elected Nov. 1, 1855; died 1876.

Dees, R. R., elected Oct. 7, 1871.

Defty, E., elected Dec. 5, 1874.

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Delgobe, E., elected March 6, 1875.

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Dennis, H., elected August 1, 1861; resigned 1861; re-elected 1863; resigned again 1871.

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Dickinson, G. T., elected July 2, 1872.

Dickinson, J., elected hon. mem. 1853; contributed a paper on the Lancashire coal-field, xv. 13.

Dickinson, J. L., elected graduate Aug. 6, 1870; member, 1873; died, 1875.

Dickinson, R., elected March 4, 1871.

Dickinson, W. R., elected Aug. 7, 1862.

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Dinning, J., elected April 5, 1873.

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Dixon, D. W., elected Nov. 2, 1872.

Dixon, G., elected 1856, resigned 1858.

Dixon, G., elected Dec. 3, 1857; resigned 1876.

Dixon, R., elected 1853, resigned 1857.

Dixon, R., elected June 5, 1875.

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Dobson, S., elected May 3, 1855; died 1871.

Dobson, T., elected March 7, 1868; resigned 1874.

Dobson, W., elected Sept. 4, 1869.

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Dodd, B., elected 1857, resigned 1862.

Dodd, B., elected graduate May 3, 1866; member 1868.

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Dodds, J., M.P., elected March 7, 1874.

Dodds, M., Jun., elected student, Dec. 4, 1875.

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Donaldson, P., elected Nov. 1, 1873.

Donations: E. Shipperdson, £20, i. 7.—T. J. Taylor, History of Coal and Mining, 22 vols., Aug. 5, 1853.—G. C. Greenwell, work on Mine Engineering, iii. 229.—Mr. Moor, Section of Lanarkshire Coal-measures, iii. 235.—M. Dunn, books on the History of the Coal Trade and on the Working of Coal, iii. 371.—Dr. Richardson, work on Chemical Technology, iv. 4.—S. Reed, Section of Strata at King Pit, Sheriff Hill Colliery, iv. 107.—E. F. Boyd, volumes containing references to papers read before the Literary and Philosophical Society of Newcastle, iv. 265.—J. T. Ramsay, token pocket, v. 1.—E. Sinclair, specimen of Hematite ore, v. 10.—Manchester Literary and Philosophical Society, books, v. 143.—N. Wood, Thorp's diagram of the Yorkshire Coalfield, v. 226.—J. Daglish, photographs of collieries, &c., vii. 181.—R. Moore, work on the Ventilation of Mines, viii. 4.—R. Stephenson, £2,000, viii. 8.—R. von Carnall, copies of his works, ix. 83.—I. L. Bell, aluminium safety-lamp, ix. 255.—Mr. Jones, safety-lamp, xi. 159.—P. Cooper, fossils, xi. 177.—M. Dunn, pamphlet, xi. 212.—P. Bourne, self-extinguishing safety-lamp, xii. 43.—Mr. Schiller, maps and plans of Prussia, xii. 45.—W. Green, jun., anthracite coal of America, xiii. 99, and Nova Scotia coal and shale, xvi. 3.—G. B. Forster, model of wrought-iron beam at Cambois Colliery, xvi. 128.—J. W. Pease, £100 to funds of the new building, xvii. 41.—Specimens of coal and

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Dorning, E., elected Aug. 3, 1865; resigned 1873.

Doubleday, T., Secretary from 1853 (ii. 256); resigned 1867; died 1871; contributed on the following subjects:—Boiler explosions caused by absence of air in the water, xv. 5.—Memoir of N. Wood, xv. 49.

Douglas, C. P., elected March 6, 1869.

Douglas, T., elected Aug. 21, 1852; on Council 1862-3, 1868-73, and 1874-5.

Douthwaite, T., elected June 5, 1869.

Dove, G., elected July 2, 1872.

Dowdeswell, H., elected student April 5, 1873; member 1874.

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Dumolo, J., elected 1853, resigned 1862.

Dunlop, C., elected 1855, resigned 1857.

Dunlop, C., Jun., elected Sept. 3, 1870.

Dunn, A. M., elected March 6, 1869; resigned 1873.

Dunn, D. G., elected April 6, 1867; resigned 1875.

Dunn, J., elected May 8, 1869; died 1873.

Dunn, M., elected hon. mem. 1853, died 1869.—Donations of copies of his works, iii. 371, xi. 212.—Contributed on the following subjects:—Boiler explosions, iv. 39.—Production of coal in Belgium and France compared with that of England and Scotland, 287.—Coal and iron-mines at Besseges, in the south of France, v. 27.—Coal-field of Cumberland, and probability of coal being below the new red sandstone, viii. 142; same, xiii. 87.

Dunn, T., elected 1855, resigned 1866.

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Dyson, G., elected June 2, 1866.

Dyson, O., elected student March 2, 1872; member 1873.

E

EASTON.

Easton, J., elected 1853; member of Council 1853 to 1856.

Eaton, J. R., elected Dec. 4, 1869; resigned 1876.

Eaton, W. C., elected June 6, 1874.

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Eddison, R. W., elected March 4, 1876.

Eden, C. H., elected student Sept. 13, 1873.

Edge, J. C., elected student Dec. 5, 1874.

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Elliot, Sir George, Bart., M.P., elected Aug, 21, 1852; member of council 1852 to 1857; vice-president 1865 to 1868; President, 1868-69; contributed on the following subjects:—On the effect of working away the over or underlying

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Eltringham, W., elected Oct. 3, 1874.

Embleton, T. W., elected Sept. 6, 1855; contributed on the following subjects:—on a self-acting hydraulic coal-cutting machine by Carrett, Marshall, & Co., xiv. 83.—Notes on the Oaks Colliery explosion, xxv. 29.

Embleton, T. W., Jun., elected Sep. 2, 1865.

Eminson, J. B., elected March 2, 1872.

Emslie, J. T., elected Sept. 3, 1870; resigned 1875.

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Everard. I. B., elected March 6, 1869.

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FARRAR, J., elected July 2, 1872.

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FAVELL, T. M., elected April 5, 1873.

FEARE, G., elected 1861; resigned 1870.

FEARN, J. W., elected March 6, 1869.

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FELLOWS, J. H., elected Dec. 5, 1874; resigned 1876.

FENWICK, B., elected Aug. 2, 1866.

FENWICK, G., elected Sept. 2, 1871.

FENWICK, T., elected April 5, 1873.

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FIDLER, E., elected Sept. 1, 1866.

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FIRTH, S., elected 1865.

FIRTH, W., elected Nov. 7, 1863.

Fisher, R. C., elected July 2, 1872.

Fletcher, G., elected graduate, April 4, 1868; member 1870.

Fletcher, G., elected Aug. 1, 1874.

Fletcher, H., elected Aug. 3, 1865.

Fletcher, I., elected Nov. 7, 1863.

Fletcher, J., elected 1857, died 1875.

Fletcher, J., elected 1861, resigned 1866.

Fletcher, Jas., elected Sept. 11, 1875.

Fletcher, J., elected student July 2, 1872.

Fletcher, W., elected student Feb. 4, 1871; member 1873.

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Flood, P. B., elected Dec. 7, 1867; resigned 1869.

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Foggin, W., elected March 6, 1875.

Foord, J. B., elected Nov. 5, 1852; resigned 1875.

Forrest, J., elected March 5, 1870.

Forster, G. B., M.A., elected Nov. 5, 1852; on Council 1857 to 1861, 1862 to 1865, 1866 to 1867; Vice-President 1869–71 and 1872–75; contributed on the following subjects:—The accident at New Hartley, xi. 143.—Geology of the magnesian limestone of Durham, xiii. 205.

Forster, G. E., elected Aug. 1, 1868; resigned 1876.

Forster, J. H., elected 1853; resigned 1867.

Forster, J. R., elected July 2, 1872.

Forster, J. T., elected graduate Aug. 1, 1868; member 1876.

Forster, R., elected Sept. 5, 1868.

Forster, R., elected Oct. 5, 1872.

Forster, T. E., elected Nov. 5, 1852; Vice-President 1861 to 1865; President 1866 to 1868.—Inaugural address, xv. 283.—Present of model of clip-pulley, xvi. 133.—Died 1873.—Memoir of, by G. C. Greenwell, xxv. 5.

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Foster, G., elected March 7, 1874.

Fothergill, J., elected Aug. 7, 1862.

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Fowler, G., elected July 4, 1861; resigned 1876. Contributed on the following subjects:—On working the main seam at Moira in Leicestershire, x. 161.—On abstracting gas from the goaves of coal-mines, xviii. 157.—Discussed, xix. 84.—On working coal by long-wall, xix. 27.—Discussed, 37, 86.—On the scroll-drum, xxi. 85.

Fowler, W. C., elected Aug. 6, 1870; resigned 1876.

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FRANCE, W., elected April 6, 1867.

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FRANKS, G., elected Feb. 6, 1875.

FRAZER, B., elected Oct. 4, 1866.

FRAZER, W., elected Oct. 4, 1866.

FRAZIER, PROF. B. W., elected Nov. 2, 1872.

FREIRE-MARRECO, PROF. A., elected hon. mem. Sept. 2, 1872.

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FRYER, G. C., elected Sept. 3, 1870; died 1872.

FRYER, MARK, elected Feb. 3, 1859; died 1868.

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Gainsforth, T. R., elected Nov. 5, 1864; resigned 1876.

Galloway, R. L., elected Dec. 6, 1873.

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Gardner, W., elected February 14, 1874.

Garforth, W. E., elected Aug. 2, 1866.

Garside, J., elected Nov. 7, 1874; resigned 1876.

Garthwaite, T. Y. B., elected student, Feb. 1, 1873.

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Gerrard, James, elected student March 3, 1873.

Gibson, J., elected Dec. 4, 1875.

Gibsone, E., elected 1862, resigned 1864; contributed a paper, On the geology of the Border districts of Dumfriesshire, Cumberland, and part of Roxburghshire, including the coal formation of Canonbie, xi. 65.

Gilchrist, T., elected graduate March 2, 1865; member 1868; resigned 1872.

Gill, H., elected May 2, 1874.

Gille, J., elected Sept. 2, 1871; resigned 1874.

Gillett, F. C., elected July 4, 1861.

Gilmour, D., elected student Feb. 3, 1872; member 1875.

Gilpin, E., elected April 5, 1873; contributed on the following subjects:—On the Pictou coal-field, xxii. 139.—Notes on the coal-measures and lower carboniferous strata of Western Newfoundland, xxiii. 167.—On the submarine coal of Cape Breton, xxiv. 173.

Gilroy, G., elected Aug. 7, 1856; contributed a paper, On a coal washing apparatus at Ince Hall, xv. 61.

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Goddard, E., elected July 2, 1872; resigned 1873.

Goddard, F. R., elected Nov. 7, 1874.

Goddard, W., elected March 6, 1862; died 1876.

Gonot, M., elected hon. member 1853; died —

Gooch, G. H., elected Oct. 3, 1856.

Goodman, A., elected Sept. 5, 1868.

Gordan, J. N., elected Nov. 6, 1875.

Gott, W. L., elected Sept. 3, 1864.

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Graham, J., elected April 2, 1870; died 1873.

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Gray, J., elected Feb. 5, 1870; resigned 1872.

Gray, T., elected June 5, 1869.

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Greaves, J. O., elected Aug. 7, 1862.

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Green, G., elected 1853, resigned 1862.

Green, J. T., elected Dec. 3, 1870.

Green, W., Jun., elected Feb. 4, 1853;

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GREENER, J., elected Feb. 6, 1875.

GREENER, T., elected Aug. 3, 1865; contributed a paper, On Bastier's chain-pump, xv. 147.

GREENER, T. Y., elected student July 2, 1872.

GREENER, W., elected 1856, resigned 1865.

GREENWAY, E., elected June 1, 1867; resigned, 1871.

GREENWELL, G. C., F.G.S., elected Aug. 21, 1852; member of council 1852 to 1858, 1861 to 1862, 1865 to 1866, and 1868 to 1869; vice-president 1875 to date; contributed on the following subjects: Greater facility of ventilating dip than rise workings, ii. 31.—Duration of Great Northern Coal-field, 214.—The coal-field of East Somerset, 258.—Diagram showing loss of temperature in upcast shaft at Marley Hill, iv. 147.—Working thin seams, with observations on long-wall and board and pillar work, 193.—Remarks on J. J. Atkinson's theory on ventilation, vii. 105.—Letter corroborating J. J. Atkinson's view of the causes of the variation of the density of the air circulating in mines, 209.—Somersetshire section of the Bristol Coal-field, x. 105.—Remarks on W. Green's paper on the anthracite coal region of North America, xiii. 99.—Rating of coal-mines, xiv. 93.—Haulage of coal by means of tail-rope, xv. 81.—

Letter on safety-lamp and shot-firing, xxiv. 168.—Memoir of the late Thos. E. Forster, xxv. 5.—Remarks on T. F. Hedley's paper, On the valuation of mines for the purpose of local taxation, xxiii. 145.—Donation of work on mine engineering, iii. 229.

GREENWELL, G. C., Jun., elected graduate March 6, 1869; member, 1872.

GREIG, D., elected Aug. 2, 1866.

GREY, C. G., elected May 4, 1872.

GRIEVES, D., elected Nov. 7, 1874.

GRIFFITH, N. R., elected graduate 1866, member 1867; contributed a paper, On the Flintshire cannel seam, xix. 75.—Discussed, 82.

GRIMSHAW, E. J., elected Sept. 5, 1868.

GRIMSHAW, W. J., elected Nov. 1, 1873.

GROUND, H. N., elected student July 2, 1872; member 1874.

GUIBAL, T., elected hon. mem. April 2, 1870.

Guibal's ventilator, description of, xiv. 73.—Experiment with, in France, xvi. 11.—Compared with Lemielle's, 57, xix. 228, 229; xxiii. 223.

Guibal and Lemielle's system of ventilation, remarks on, by W. Cochrane, xviii. 139.

Guibal and Waddell's ventilators at Pelton, remarks on, by D. P. Morison, xviii. 99.

GUINOTTE, L., elected Sept. 2, 1871.

Gunpowder, explosion of, a means of ascertaining the velocity of air in mines, x. 209.—Causes of error in use of, for do., 213.—Comparative experiments with, 214.—Introduced into pits 1665, xv. 192.—Necessity of abolishing use of in mines, xviii. 25.

GURNEY, G., elected hon. mem. 1853 to date.—His evidence before the House of Commons on the steam jet for the purposes of ventilation, i. 39.

Gutta-percha compared with leather for pump-buckets, xii. 39.

H

HADDOCK.

Haddock, J., elected Dec. 7, 1867; resigned 1871.

Haggie, D. H., elected March 4, 1876.

Haggie, P., elected 1854.

Hague, E., elected student March 2, 1872; life member 1876.

Hainaut, notes on further researches on the natural pits of, by G. A. Lebour, xxiii. 95.

Haines, J. R., elected Nov. 7, 1874.

Hair, T. C., elected Feb. 1, 1873.

Hales, C., elected 1865.

Hall, E., elected Oct. 3, 1868; resigned 1875.

Hall, F. W., elected Aug. 7, 1869; contributed a paper, On the Cornish pumping-engine at Settlingstones, xxi. 59.

Hall, G., elected March 6, 1875.

Hall, H., elected Aug. 2, 1866; resigned 1873.

Hall, H., elected hon. mem. March 4, 1876.

Hall, Henry (and G. Clarke), On the mechanical effect of "blown-out" shots on ventilation, xxv. 239.

Hall, M., elected Sept. 5, 1868.

Hall, M. S., elected Feb. 14, 1874.

Hall, T., elected 1858, resigned 1864.

Hall, T. Y., elected Aug. 21, 1852; contributed on the following subjects: Safety-lamps, i. 323, ii. 22.—Improvements in colliery workings, ii. 22.—Means of penetrating dangerous gases, 87.—Extent and probable duration of the Northern coal-field, 104.—Self-acting blow-off valve, iv. 40.—Coal-field of Styria, 55.—Coal and iron trade in America, 125.—Production and consumption of coal in France, vi. 49.—Rivers, ports, and harbours of the great

HARPER.

Northern coal-field, x. 41.—Water-gauge, xi. 217.—Progress of coal mining in China, xv. 67.—Compensated for preparing diagrams, vii. 179, viii. 3.—Bequest of £500 for a scholarship, xix. 188.

Hall, W., elected Sept. 13, 1873.

Hall, W., elected Dec. 4, 1875.

Hall, W. F., elected May 13, 1858.

Hall and Whitaker's furnace, xviii. 52.

Hallimond, W. T., elected student May 2, 1874.

Hamilton, E., elected student Nov. 1, 1873.

Haud-power machines, application of, to boring shot, or other holes in mines, xx. 65.

Hann, E., elected graduate Sept. 5, 1868 member 1872.

Hann, W., elected 1853, resigned 1865.

Hann's safety-lamp, xxiii. 18, 19.—Exhibited and referred to committee, xviii. 5.

Hanon, J., elected March 7, 1867; resigned 1869.

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Harbottle, W. H., elected Dec. 4, 1875.

Harbours in great Northern coal-field, x. 41.

Harden, J. W., elected 1859, resigned 1869.

Hardy, B., elected 1856, resigned 1862.

Hareshaw iron-works, v. 167.

Hargreaves, H., elected student July 2, 1872; resigned 1873.

Hargreaves, W., elected Sept. 5, 1868.

Harkness, A., elected Dec. 5, 1868.

Harper, J. P., elected Feb. 2, 1867; resigned 1876.

HARPER.

HARPER, M., elected Oct. 1, 1863; died 1876.

Harper's safety-cage, xvi. 113, 114.

Harraton Colliery, explosion at, vii. 31.—Tail-rope system at, xvii. (Appendix 1) 32.

HARRIS, J., elected 1856, resigned 1865.

HARRIS, W. S., elected student Feb. 14, 1874.

HARRISON, J. G., elected graduate, Oct. 6, 1864; resigned 1869.

HARRISON, J. G., elected 1865, resigned 1866.

HARRISON, R., elected 1861.

HARRISON, R. J., elected student May 1, 1875.

HARRISON, T., elected Aug. 2, 1873.

HARRISON, T. E., C.E., elected May 6, 1853; on council 1867 to 1868; vice-president, 1869–72.

HARRISON, W. B., elected April 6, 1867.

HARRISON'S cast-iron globe boiler, xxi. 35.

HARTLEY, E., elected Nov. 6, 1869; died 1870.—Donation of books, xix. 91.

Hartley, accident at, by breakage of beam, xi. 143.—Workings of the low main seam, 153.—Destruction of life caused by carbonic acid, xii. 202.

Harton Colliery, tubbing at, xi. 14.—Effect of the sinking at Cleadon water-works on, 15.

Hartop's ventilating fan at Hemingfield pits, xi. 90.

Hartz ventilating machine, iii. 112.

HASWELL, G. H., elected Mar. 2, 1872.

Haswell, issue of gas at Pespool drift, i. 283.—Experiments on ventilation at, iii. 365.—On the effect of contracting the upcast shaft, iv. 15.—Winning through the quicksand, v. 57.—Haulage of coals underground, 68.—Evaporative power of boilers, 103.—Plan showing part of the ventilation at, vii. 132.—Experiments on splitting air at, 132, 145, 197.—Analysis of cinder coal at, iii. 23, xii. 200, xiii. 220.

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—Self-acting planes, 270. — Experiments on the Polka inclined plane, 272. — Fixed steam-engines, 275.—Friction of ropes on fixed engine-planes, 281.—Experiments on ditto at Eppleton Pit, Hetton, 282. — Ditto at bank, 283.—At Minor East Pit, Hetton, 284.—At Killingworth, 285.—On engines dragging coals from the dip with a single rope, 287.—Eppleton Pit, Hetton, 287.—Results of experiments, 289.—Resistance, 290. — Experiments on fixed engine at Killingworth, 291.—Results, 291.—Resistance, 292. — Experiments on fixed engine at Springwell, 292.—Results, 293.—Resistance, 294.—Experiments on engines dragging coals along levels: Elemore engine, Hetton, 294.—Results, 295.—Resistance, 298.—Experiments at Minor East Pit, Hetton, 299. — Results, 302. — Resistance, 302.—Experiments on Killingworth engine, 303.—Results, 306.—Resistance, 303, 307.—Experiments at Andrews House Colliery, 307.—Results, 309.—Resistance, 309.—Experiments at Black Boy Colliery; dragging coals and pumping, 309.—Results, 312. — Resistance, 312. — General results, 313.—General system of mechanical conveyance, 314.

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mometer at do., 103.—The endless-rope system, No. 1, as applied at California Pit, near Wigan, 106.—The endless-rope system, No. 1, as applied at Newsham Colliery, Northumberland, 108.—The endless-rope system, No. 1, as applied at Eston Mines, Yorkshire, 112.—The endless-rope system, No. 1, as applied at Cinder Hill Colliery, Nottingham, 114.—Experiments with indicator at do., 116.—The endless-rope system, No. 2, introductory remarks, 117.—The endless-rope system, No. 2, as applied at Bridge Pit, near Wigan, 119.—Experiments with indicator at do., 127.—Experiments with dynamometer at do., 128.—Experiments at Bridge Pit, near Wigan, to determine the friction of tubs, 131.—The endless-rope system, No. 2, as applied to the Meadow Pit, near Wigan, 134.—Experiments with indicator at do., 136.—Experiments with dynamometer at do., 137.—The endless-rope system, No. 2, as applied at Moor Pit, near Wigan, 139.—The endless-rope system, No. 2, as applied at Mesnes Colliery, 140.—The endless-rope system, No. 2, as applied at Scot Lane Pit, near Wigan, 141.—The endless-chain system, as applied at Bryndu Colliery, Glamorganshire, 142.—Summary of tail-rope system, 145.—Methods of applying do., 146.—General economy of do., 150.—Cost of labour compared with that of the endless-chain, 151.—Summary of endless-chain system, 153.—Methods of applying do., 154.—General economy of do., 158.—Summary of No. 1 endless-rope system, 160.—Methods of applying do., 160.—General economy of do., 163.—Summary of No. 2 endless-rope system, 165.—Methods of applying do., 165.—General economy of do., 167.

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Hapton Valley Colliery. — 20. Ditto, section of surface ginney road, Hapton Valley Colliery.—21. Ditto, arrangement for driving ginney roads at Barclay Hills. — 22. Ditto, section of shaft and underground ginney roads at Gannow Colliery.—23. Ditto, plan of underground ginney roads at Gannow Colliery.—24. Ditto, section of shaft and main underground ginney roads at Rowley Colliery. — 25. Ditto, plan of underground ginney roads at Rowley Colliery, 26.—Ditto, section of surface ginney road from Rowley Colliery to Burnley.—27. Ditto, section of ginney road from Clifton Hall Colliery to Canal.—28. Ditto, sketch of self-acting curve at Cornfield Pit.—29. Ditto, section of self-acting curve at Townley Colliery, near Burnley.—30. Ditto, plan of surface gearing at Townley Colliery. —31. Ditto, arrangement for working single branch at Townley Colliery.—32. Ditto, arrangement for working two branches at Townley Colliery. — 33. Ditto, arrangement for working oblique branches at Townley Colliery. — 34. Ditto, arrangement for working single branch at Marsden Colliery.—36. Ditto, arrangement for working three branches at Marsden Colliery. —37. Endless-chain system, No. 1, Shireoaks Colliery.—38. Ditto, arrangement of gearing at Shireoaks Colliery. — 39. Ditto, sketch of clamp used for connecting the set of tubs to the rope, Shireoaks Colliery.—40. Ditto, diagrams illustrating the system at Shireoaks Colliery.—41. Ditto, sketch of clamp used for connecting the set of tubs to the rope at California Pit, near

HEATH.

Wigan. — 42. Ditto, arrangements of engine and tightening pulleys at California Pit, near Wigan. — 43. Ditto, plan of engine and clip-pulley at Newsham Colliery, Northumberland.—44. Ditto, underground engine-plane, Newsham Colliery, Northumberland.—45. Ditto, arrangement of the system at Eston Mines, Yorkshire. — 46. Ditto, gear for driving the rope at the Cinder Hill Colliery, Nottinghamshire. — 47. Ditto, arrangement of ropes at the Cinder Hill Colliery, Nottinghamshire.—48. Endless-rope system, No. 2, sketch of engine used in working the endless-rope at the Meadow and Bridge Pits, Wigan. — 49. Ditto, plan of engine roads, Bridge Pit, Wigan.—50. Ditto, plan of the system at Meadow Pit, Wigan.—51. Ditto, arrangement of ropes in pit shaft at Mesnes Colliery.—52. South Wales endless-chain system, section of engine-plane at Brynddu Colliery, Glamorganshire.—53. Ditto, sketch of arrangement for working the system at Brynddu Colliery, Glamorganshire.

HAWKS, S. W., elected Dec. 4, 1869, died 1870.

Hawn Colliery, South Staffordshire, long-wall system at, x. 195.

HAWTHORN, R., elected 1853, died 1866.

HAWTHORN, T., elected December 6, 1866; on Council 1870 to date.

HAWTHORN, W., C.E., elected March 4, 1853; died 1876.

HAY, J., elected graduate Sept. 4, 1869; member 1874.

HEAD, J., elected Oct. 2, 1869; resigned 1876.

Heat, rate of increase of, below surface, iv. 204.

HEATH, R., elected 1861, resigned 1867.

Hebburn, boring at, i. 283.

Heckels, G., elected 1856, resigned 1857.

Heckels, M., elected April 11, 1874.

Heckels, R., elected Nov. 5, 1852; contributed a paper, On upcast shafts, and their heated air currents, xiii. 53.

Heckels, W. J., elected graduate May 2, 1868.

Hedley, E., elected Dec. 2, 1858; contributed a paper, On iron mines and iron manufacture in Nova Scotia, xiv. 15.

Hedley, E., elected student Dec. 2, 1871.

Hedley, G., elected student Aug. 2, 1873; resigned 1875.

Hedley, J., elected 1853, hon. mem. 1858, died 1869; contributed a paper, On coal mining in North Staffordshire, ii. 242.

Hedley, J. H., elected 1865, resigned 1866.

Hedley, J. J., elected student April 6, 1872; member 1874.

Hedley, J. L., elected graduate Feb. 5, 1870; member 1873.

Hedley, T. F., elected March 4, 1871; contributed papers, On the valuation of mines for the purposes of local taxation, xxii. 117, 137.—Discussed 131, 149, 154.

Hedley, W. H., elected 1864; on council 1872, to date.

Hemingfield, Hartop's ventilating fan at, xi. 90.

Henderson, H., elected Feb. 14, 1874.

Henderson, J., M.P., elected March 5, 1870

Heppell, G., new mode of ventilation by, v. 145.

Heppell, T., elected Aug. 6, 1863.

Heppell, W., elected March 2, 1872.

Hepplewhite, T., elected Dec. 5, 1868; died 1874.

Herdman, J., elected Oct. 4, 1860.

Herschel, A. S., Prof., elected hon. mem. 1872.

Heslop, C., elected graduate Feb. 1, 1868; member 1873.

Heslop, G., elected Oct. 5, 1872.

Heslop, J., elected graduate Feb. 6, 1864 member 1866.

Hester Pit, Hartley, xi. 143.

Hetherington, D., elected 1859.

Hetherington, R., elected Nov. 1, 1873.

Hetton Colliery, experiments on steam jet, i. 106 to 114.—To determine power required to produce different velocities of currents of air, 70, 128, 134, 137, 143.—Underground haulage experiments, iii. 251.—Friction of tubs, 251.—Performance of horses underground, 263, 264, 267.—On engine-plane, 282, 283, 284.—On engine at Eppleton, 287, 294, 318.—East Pit, 300.—Attempt to win through quicksand, v. 56.—Experiments to test J. J. Atkinson's theory on air-splitting, vii. 62, 145, 197.—Barometer and thermometer register, and quantities of air circulated in the Minor Blossom Pits in 1858, vii. 202.—Explosion at, ix. 93.—Plan of ventilation of, ix. 95.—Experiments on furnaces, ix. 131, 135.—Ransom's soluble glass tried for tubbing, xi. 25.—Experiments on the ventilation of underground boilers, xii. 82.—Ventilation at, in 1863, xii. 186, 188.—Analysis of corroded tubbing from, xiii. 221.—Experiments at East Minor Pit, xvi. 54.—The evaporative power of boilers, 98, 108.—Tail-rope system at, xvii. (Appendix 1) 7.

Hewitt, G. C., elected June 3, 1871.

Hewlett, A., elected March 7, 1861.

Heworth, experiments at, on underground haulage, v. 85.—Ditto, on evaporative power of boilers, v. 106.

Hibernia Colliery, Prussia, tubbing at, xi. 15.—Two modes of ventilating considered, xii. 51.

Hick, G. W., elected May 4, 1872.

Hicks' apparatus for screening and load-

ing coals, described by Robert Miller, xxi. 295.
Higmore, J., elected 1861, resigned 1862.
Higson, J., elected 1861.
Higson, P., elected 1854, hon. mem. 1856, died 1874.
Higson, P., Jun., elected Aug. 3, 1865.
Hill, A., elected Aug. 2, 1866; resigned 1869.
Hill, L. C., elected Nov. 6, 1875.
Hill, P., elected July 2, 1872; died 1874.
Hilton, J., elected graduate Dec. 7, 1867; member 1870.
Hilton, T. W., elected Aug. 3, 1865.
Hindhaugh, T. L., elected graduate 1865, resigned 1866.
Hindhaugh, T. S., elected 1865, resigned 1868.
Hodgetts, A., elected 1864, resigned 1865.
Hodgkin, T., elected Sep. 2, 1871.
Hodgson, J. W., elected graduate Feb. 5, 1870.
Hodgson, R., elected Feb. 7, 1856; on council 1872 to 1875.
Hodgson, T., elected Dec. 4, 1875.
Holborn Woodhouses, view of coast at, ix. 212.
Holdsworth, J., elected 1856, resigned 1858.
Holliday, M., elected May 1, 1875.
Holman's pump-valves, xvii. 90.
Holme, J., elected student Sept. 11, 1875.
Holmes, C., elected April 11, 1874.
Holt, J., elected 1855, resigned 1858.
Home Office, eight volumes of Transactions presented to, ix. 87.
Home Secretary, letter from, on examination papers under the Mines Regulation Act, xxiv. 39.
Homer, G. J., elected Aug. 3, 1865; contributed, A description of Chatterley and West Coyney pumping apparatus, xv. 38.
Hood, A., elected April 18, 1861.
Hook, Walker's, xxiv. 35.

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Hopper, A., elected 1855, resigned 1858.
Hopper, J. J., elected Sept. 2, 1865; resigned 1875.
Hopton, J., elected Dec. 5, 1874.
Hopton's system of ventilation, vi. 153.
Horne, G., elected graduate June 6, 1868; resigned 1861.
Horne, T. S., elected Sept. 4, 1869; resigned 1871.
Hornsby, H., elected Aug. 1, 1874.
Horses, haulage performed by, iii. 262, 268.
Horsfall, J. J., elected March 2, 1865; resigned 1876.
Horsley, W., elected March 5, 1857; contributed a paper, On the speed with which damping the fires of a boiler reduces the pressure therein, iv. 48.
Horton, T. E., elected 1861; died 1872.
Hosking, J., elected Oct. 2, 1869; died 1871.
Hoskold, H. D., elected April 1, 1871.
Household coal, collieries producing, in the North, ii. 272.
Howard, W. F., elected Aug. 1, 1861; contributed on the following subjects: On Buckstone's ventilation register and detector, x. 133.—On practice in underground surveying, and advocacy of contour mining plans, xix. 19.—Ten years mineral statistics of the United Kingdom, xxi. 161.
Howard, W. J., elected Feb. 5, 1870; resigned 1871.
Howse, R., Assistant Secretary 1863 to 1867, xii. 146; contributed on the following subjects: The glaciation of the counties of Northumberland and Durham, xiii. 169.—The boundary line between the millstone grit and the mountain limestone, xiv. 43.—Some remarks on the beds of ironstone occurring in Lincolnshire, xxiv. 23.
Hoyt, J., elected May 8, 1869.

Hudson, J., elected 1862.
Hughes, H. E., elected graduate Nov. 6, 1869; member 1876.
Humble, J., elected March, 1871.
Humble, J., Jun., elected June 2, 1866.
Humble, W. J., elected Sept. 1, 1866.
Humboldt, Baron Von, hon. mem. from 1859 to 1860.
Humphrey, A., elected 1853, resigned 1854.
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Hunt, A. H., elected Dec. 6, 1862.
Hunt, J. H., elected 1853, resigned 1855.
Hunt, J. P., elected 1861, resigned 1868.
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Hunter, J., elected graduate March 6, 1869; member 1875.
Hunter, S., elected 1855, resigned 1858.
Hunter, W., elected Aug. 21, 1852.
Hunter, W., elected Oct. 3, 1861.
Hunter, W. S., elected Feb. 1, 1868.
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Hunting, C., elected Dec. 6, 1866.
Huntsman, B., elected June 1, 1867; resigned 1876.
Hurd, F., elected Dec. 4, 1869.

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Hurst, T. G., elected Aug. 21, 1852; on council 1859 to 1864, 1865 to 1871, 1872 to 1873, and 1875 to 1876; contributed a paper, On the peculiarities of the Tyne low main seam, viii. 23.
Hutchings, W. M., elected Sept. 5, 1868.
Hutchinson, G., elected July 2, 1872.
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Hyslop, J. S., elected student April 1, 1871.

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Jackson, C. G., elected June 4, 1870.

Jackson, F. J., elected 1859, resigned 1866.

Jackson, H., elected Aug. 1, 1861; resigned 1869.

Jackson, J., elected Aug. 1, 1861.

Jackson, W., elected Feb. 14, 1874.

Jackson, W. G., elected June 7, 1873.

James, C., elected 1857, resigned 1863.

Jameson, J., elected Nov. 6, 1869.

Jarratt, J., elected Nov. 2, 1867.

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Jeffcock, P., elected 1855, killed at Oaks Colliery 1866; allusion to his death, xvi. 130.

Jeffcock, T. W., elected Sept. 4, 1869.

Jenkins, J. H., elected graduate March 6, 1869; resigned 1871.

Jenkins, W., elected Dec. 6, 1862.

Jenkins, W., elected May 2, 1874.

Jepson, H., elected student July 2, 1872.

Jobling, T. W., elected Aug. 21, 1852; member of council till 1861; died 1869.

Johnasson, J., elected July 2, 1872.

Johnson, G., elected 1853, resigned 1865.

Johnson, H., elected 1861, resigned 1868; contributed a paper, On working the 10-yard seam in South Staffordshire, x. 183.

Johnson, H., elected Aug. 7, 1869.

Johnson, J., elected Aug. 21, 1852.

Johnson, J., elected March 7, 1874.

Johnson, R. S., elected Aug. 21, 1852.

Johnson, T., elected Aug. 7, 1869; resigned 1872.

Johnson, W., elected student Feb. 14, 1874.

Johnson, W. H., elected Dec. 4, 1875.

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Johnson, W. J., elected April 6, 1872.

Johnston, T., elected April 6, 1872.

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Joicey, E., elected April 6, 1872.

Joicey, John, elected Sept. 3, 1852.

Joicey, J., elected 1853, resigned 1863.

Joicey, J. G., elected April 10, 1869.

Joicey, W. J., elected March 6, 1869.

Jonassohn, D., elected 1853, resigned 1854.

Jones, A., elected 1858, resigned 1864.

Jones, E., elected Oct. 5, 1854; resigned 1875.

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Jones, J., elected Sept. 7, 1867.

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Jordan, R., elected Nov. 7, 1874.

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Joseph, D. D., elected student April 6, 1872; member 1874.

Joseph, T., elected April 6, 1872.

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Kendall, J. D., elected Oct. 3, 1874.
Kendall, W., elected Sept. 1, 1866.
Kennedy, M., elected June 6, 1868.
Kenrick, W. W., elected 1862, resigned 1871.
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Kerr, J., elected 1858, resigned 1867.
Key, T., elected student, Nov. 2, 1872; member 1875.
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Kimpton, J. G., elected Oct. 5, 1872.
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Kirkwood, W., elected Aug. 7, 1869.
Kirsopp, J., elected April 5, 1873.
Knowles, A., elected Dec. 5, 1856.
Knowles, A., Jun., elected Dec. 3, 1863.
Knowles, J., elected Dec. 5, 1856; exhibited model of safety-cage, vi. 235.—Contributed a paper, On direct-acting winding and pumping-engines, xv. 19.
Knowles, K., elected Aug. 3, 1865.
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Kyrke, R. H. V., elected graduate Feb. 5, 1870; member 1875.

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LAIDLER, W. J., elected March 4, 1876.

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LAMB, R., elected Sept. 2, 1865.

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LANCASTER, J., Jun., elected March 2, 1865.

LANCASTER, JOSHUA, elected Aug. 3, 1865.

LANCASTER, S., elected Aug. 3, 1865.

LANDALE, A., elected Dec. 2, 1858.

LANGE, C., elected March 5, 1870.

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LAURENT, F., elected 1857, resigned 1858; contributed on the following subjects: A new system of ventilation, vi. 21.—On Lemielle's ventilating machine, vi. 129.

LAVERICK, G. W., elected 1860, resigned 1867.

LAVERICK, J., elected July 2, 1872.

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LAWRENCE, H., elected Aug. 1, 1868.—

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LAWS, J., elected 1854.

LAWSON, Rev. E., elected Dec. 3, 1870.

LAWSON, J. P., elected Dec. 3, 1870.

LAYCOCK, J., elected Sept. 4, 1869.

LEACH, C. C., elected student, March 7, 1874.

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LEATHER, J. T., elected Aug. 6, 1870.

LEBOUR, G. A., elected Feb. 1, 1873; contributed on the following subjects: On the geology of the Redesdale ironstone district, xxii. 111.—Discussed, xxiii. 41.—Notes on further researches in the natural pits of Hainaut, with remarks on their probable origin, xxiii. 95.—On the "little limestone" and its accompanying coal in South Northumberland, xxiv. 73.—Discussed, xxv. 46.—On the "great" and "four-fathom" limestones and their associated beds in South Northumberland, xxiv. 133.—Discussed, xxv. 46.—On the larger divisions of the carboniferous system in Northumberland, xxv. 225.

LEDWARD, W. J., elected 1857, resigned 1862.

LEE.

Lee, G., elected June 4, 1870.

Lees, S., elected Aug. 2, 1866; resigned 1871.

Legrand, A., elected June 5, 1869; resigned 1873.

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Leslie, A., elected Sept. 7, 1867.

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Letoret, J., elected Sept. 4, 1869; resigned 1872.

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Lever, E., elected 1861.

Levick, F., Jun., elected 1855, resigned 1867.

Lewis, G., elected Aug. 6, 1863.

Lewis, H., elected Aug. 2, 1866.

Lewis, Henry, on working coal by long-wall at Annesley Colliery, xxi. 3.

Lewis, L. T., elected Feb. 1, 1868; resigned 1875.

Lewis, T. W., elected Sept. 3, 1864; resigned, 1871.

Lewis, W. T., elected 1864.

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Liddell, G. H., elected graduate Sept. 4, 1869; member 1872.

Liddell, J. M., elected student, March 6, 1875.

Liddell, J. R., elected Aug. 21, 1852; member of council from 1858 to 1863.

LINCOLNSHIRE.

Liddell, M., elected Oct. 1, 1852; member of council from 1853 to 1860, and from 1861 to 1862.

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Lindsay, C. S., elected student March 4, 1876.

Linsley, R., elected July 2, 1872.

Linsley, S. W., elected Sept. 4, 1869.

Lishman, C. J., elected student June 7, 1873; resigned 1875.

Lishman, J., elected June 2, 1866.

Lishman, T., Jun., elected student, Nov. 5, 1870; member 1872.

Lishman, W., elected 1857; contributed a paper, On electric signals on underground engine-planes, xxiv. 165.

Lishman, W., elected March 7, 1861; contributed on the following subjects: Explosion at Newbottle Colliery, xv. 99. —Pumping-engine at Lyons Pit, xv. 132. —Long-wall working, xvi. 45. — Remarks on the prevention of smoke, xvii. 66, 68.

Lisle, J., elected student July 2, 1872.

Lister, C., elected June 4, 1870; resigned 1873.

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Little, W., elected 1859, resigned 1864.

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Livesey, T., elected Aug. 1, 1861.

Livesey, T., elected student, Nov. 7, 1874; member 1875.

Llewellin, D., elected Aug. 4, 1864.

Llewellin, W., elected 1855, resigned 1863.

Llewellyn, L., elected May 4, 1872.

Lloyd, J. F., elected Sept. 11, 1875.

Lloyd, T. H., elected June 1, 1867; resigned 1871.

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Locke, J., elected 1853, vice-president 1861, died 1861; memoir of, by N. Wood, ix. 56.

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Logan, W., elected Sept. 7, 1867.

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Longbotham, J., elected graduate May 2, 1868; member 1873.

Longridge, H. G., elected 1853, resigned 1857, hon. member till 1859-60; contributed a paper, On the coal districts of Turkey, iii. 61.

Longridge, J. A., elected Aug. 21, 1852; member of council 1852 to 1858; Exhibits model of swing-door for tramroad air-courses, i. 235.—Contributed on the following subjects: On the steam-

jet for purposes of ventilation, i. 35.—Means of counteracting effects of choke-damp, ii. 37.—Position of upcast shafts, and loss of temperature in same, iv. 147.—Effect of changes in the condition of the air on ventilation, iv. 203.

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Low, W., elected Sept. 6, 1855.

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Lupton, A., elected Nov. 6, 1869; contributed a paper, On Grafton Jones' coal-getting machine, xix. 239.—Discussed, 242.

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MacKenzie, J., elected March 5, 1870.

Mackworth, H., hon. member from 1852 to 1857; contributed on the following subjects: Improvements in boring, ii. 60.—Waring's coal-cutting machine, 70, 102.—Safety-lamps, 53.—Water as a ventilating power, 74.

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Maddison, H., elected Nov. 6, 1875.

Maddison, J., elected 1863, resigned 1868.

Maddison, W., elected Dec. 6, 1862; resigned 1871.

Maddison, W. P., elected Oct. 6, 1859; died 1876.

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Malcolm, G. A., elected graduate April 2, 1870; resigned 1872.

Maling, C. T., elected Oct. 5, 1872.

Mallet, R., F.R.S., C.E., elected Nov. 7, 1863; resigned 1872.

Mammatt, J. E., C.E., elected 1864.

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Mann, A. C., elected student Feb. 6, 1875; resigned 1876.

Manners, G. T., elected 1866, resigned 1871.

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Markham, G. E., elected student Dec. 4, 1875.

Marley, J., elected Aug. 21, 1852; mem-

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ber of Council 1850 to 1865, and from 1866 to 1872; vice-president 1872 to 1875; contributed on the following subjects: Outline of the main or stratified ironstone at Cleveland, v. 165.—Coal-mining, xii. 149.—Discovery of rock salt at Middlesbro', xiii. 17.—Safety-cages, xv. 107.—Gives his patent safety-cage to the public, xvii. 41.—On the magnetic ironstone of Rosedale Abbey, xix. 193.—Discussed, 199.

MARLEY, J. W., elected graduate Aug. 1, 1868; member 1873.

Marley Hill Colliery; performance of horses underground, iii. 265.—Temperature of up-cast shaft, iv. 147.—Disconnecting apparatus at, xv. 83.

MARRECO, A. FREIRE, Professor, elected hon. member 1872; contributed on the following subjects:—Abstracted account of Dr. Ernst von Meyer's recent examination of the gases occluded by coal, xxii. 25.—Discussed, 28, 129, 136.—Details of further experiments, 135.—Letter from, on examination papers under the Mines Regulation Act, xxiv. 42.—On coal gases, xxv. 41.

MARSH, T. G., elected student Sept. 13, 1875.

MARSHALL, F. C., elected Aug. 2, 1866.

MARSHALL, J., elected 1864.

MARSHALL, R., elected 1856, died 1870.

MARSTON, W. B., elected Oct. 3, 1868.

MART, B., elected Sept. 4, 1869; resigned 1873.

MARTEN, E. B., elected July 2, 1872.

MARTEN, J. S., elected March 3, 1873.

MARTIN, R. F., elected April 11, 1874; contributed a paper, On the advisability of making public or keeping secret the result of examinations in connection with certificates of competency, xxiv. 39.

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MATTHEWS, P., elected 1861, resigned 1862.

MATTHEWS, R. F., elected March 5, 1857; member of council from 1858 to 1860, 1864 to 1865, and 1869 to 1870.

MATTHEWS, W., elected 1862, resigned 1863.

MAUGHAN, J. A., elected graduate Nov. 7, 1863; member 1870.

MAURICE, A. H., elected Sept. 1, 1866; resigned 1871.

MAURICE, M. B., elected 1867, resigned 1868.

MAY, G., elected March 6, 1862; on council 1873–4, and 1875 to date.

MAYNARD, C., elected 1865, resigned 1868.

MAYNARD, T. C., elected 1853, resigned 1857.

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McCREATH, J., elected March 5, 1870.

McCULLOCH, D., elected Dec. 4, 1875.

McCULLOCH, H. J., elected Oct. 1, 1863.

McCULLOCH, W., elected Nov. 7, 1874.

McDONALD, H., elected 1865, resigned 1868.

McGHIE, T., elected Oct. 1, 1857.

McGILL, R., elected 1862, resigned 1869.

McINTYRE, J., elected Sept. 2, 1871; resigned 1873.

McLEAN, J. C., elected 1853, resigned 1857.

McMURTRIE, J., elected Nov. 7, 1863.

McMURTRIE, W. G., elected Sept. 4, 1869.

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Mercer, J., elected 1853, resigned 1862.

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Miller, R., elected March 2, 1865; contributed a paper, On a new and improved method of loading and screening coals, xxi. 295.—On dislocations in the Silkstone seam of Strafford Main Colliery, xxv. 23.

Miller, W., Jun., elected 1862, resigned 1866.

Milling, J. T., elected student May 6, 1876.

Mills, J., elected July 2, 1872.

Mills, M. H., elected student Feb. 4, 1871; member 1876.

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Mitchell, C., elected April 11, 1874, vice-president 1876-77.

Mitchell, J., elected Feb. 14, 1874.

Mitchinson, R., Jun., elected Feb. 4, 1865.

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Moody, R. W., elected 1863, resigned 1865.

Moor, Thos., elected Oct. 3, 1868.

Moor, W., elected Oct. 3, 1874.

Moor, W., Jun., elected student July 2, 1872.

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Moore, T. H., elected Feb. 2, 1867.

Moore, R. W., elected student Nov. 5, 1870.

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Moreing, C. A., elected student Nov. 7, 1874.

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Morris, W., elected 1858.

Morrison, H. M., elected Feb. 3, 1856; resigned 1871.

Morrison, J., elected Aug. 5, 1853; member of council 1867 to 1871; resigned 1876; coke manufactured by him from washed coal, viii. 124.

Morton, C., elected hon. member 1853.

Morton, H., elected 1852, died 1870.

Morton, H. J., elected 1856, life member 1861.

Morton, H. T., elected Aug. 21, 1852; member of council 1852-53 and 1867-68.

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Muckle, J., elected March 7, 1861.

Mulcaster, H., elected July 6, 1854; died, 1868.

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Mulcaster, W., Jun., elected Dec. 3, 1870.

Mulvany, W. T., elected Dec. 3, 1857; contributed a paper, On a projected international communication in the north and east of Europe through the new Harbour of Flushing, xxiv. 217.

Mundle, A., elected student June 5, 1875.

Mundle, R., elected student March 6, 1875.

Mundle, W., elected 1853, resigned 1863, re-elected August 2, 1873.

Murray, B., elected Aug. 2, 1866; resigned 1869.

Murray, G., elected Nov. 7, 1874.

Murray, T., elected 1853, resigned 1862.

Murray, T. H., elected April 18, 1861.

Murray, W., elected 1855, resigned 1856.

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Nasse, R., elected Sept. 4, 1869.

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Naylor, J. T., elected Dec. 6, 1866.

Nelson, J., C.E., elected Oct. 4, 1866; on council 1868 to date; contributed on the following subjects: On underground haulage at Pelton, xvi. 117.—On mechanical stoking of steam boilers, xviii. 51.

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Nevin, J., elected graduate, May 2, 1868; member 1871.

Newall, R. S., elected May 2, 1863; on council 1866 to 1871, vice-president 1871 to 1874, on council 1874 to date; contributed on the following subjects: On an improved method of reading the compass in underground surveying, xx. 108.—On supplying Newcastle and district with water from Lake Ullswater, xxiv. 49.

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Nicholson, E., Jun., elected Aug. 7, 1869.

Nicholson, Dr. H. A., elected hon. mem. Nov. 7, 1874; resigned 1875; contributed a paper, On the mining districts on the north shore of Lake Superior, xxiv. 237.

Nicholson, J. W., elected Oct. 11, 1873.

Nicholson, M., elected Nov. 7, 1863.

Nicholson, R., elected 1853, resigned 1854.

Nicholson, R., elected July 2, 1872.

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Pameley, C., elected graduate Sept. 5, 1868.

Panton, F. S., elected graduate Oct. 5, 1867; member 1874.

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Parland, J. J., elected student May 4, 1872; resigned 1874.

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Parton, T., elected Oct. 2, 1869.

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Patton, J., elected April 6, 1872.

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Peacock, D., elected Aug. 7, 1869.

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Pearson, J. E., elected Feb. 3, 1872.

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PHILIPSON, H., elected Oct. 7, 1871.

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RAMSAY, W., elected Sept. 11, 1875.

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REED, R., elected Dec. 3, 1863.

REED, R. G., elected 1853, resigned 1861.

REED, W., elected 1857, resigned 1859.

REES, D., elected 1862.

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Ridley, G., elected graduate Feb. 4, 1865, member 1868.

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Robinson, H., elected Sept. 3, 1870.
Robinson, R., elected 1857, resigned 1866.
Robinson, R., jun., elected Feb. 1, 1868.
Robinson, R. H., elected Sept. 5, 1868.
Robson, D. W., elected Nov. 7, 1874.
Robson, E., elected April 2, 1870.
Robson, G., elected 1855, resigned 1862.
Robson, H. N., elected student Dec. 4, 1875.
Robson, J., elected 1852, on council from 1852 till 1855, died 1856.
Robson, J. B., elected May 8, 1869, resigned 1873.
Robson, J. G., elected 1853, resigned 1863.
Robson, J. S., elected 1853.
Robson, J. M., elected graduate Dec. 5, 1868.
Robson, J. T., elected Sept. 4, 1869.
Robson, M., elected May 4, 1872.
Robson, M. B., elected 1853, resigned 1864.
Robson, N., elected 1861, died 1869.
Robson, T., elected October 4, 1860.
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Routledge, J., elected Sept. 11, 1875.
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SHAW, J., elected Nov. 6, 1875.

SHAW, W., Jun., elected June 3, 1871.

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SHELFORD, W., elected Feb. 5, 1876.

SHEPPARD, F. C., elected Nov. 6, 1872; resigned 1874.

SHEPPERDSON, E. H., elected 1861, resigned 1862.

SHERATON, F., elected graduate June 6, 1868; resigned 1872.

SHERBORNE, J., elected Dec. 4, 1875.

SHIEL, John, elected May 6, 1871.

SHIELD, H., elected March 6, 1862.

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SHORT, J. T., elected student Dec. 5, 1874.

SHORTREDE, T., elected April 3, 1856.

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SIMPSON, J., elected graduate Dec. 6, 1866; member, 1867.

SIMPSON, J., elected Mar. 3, 1873.

SIMPSON, J., elected April 3, 1875.

SIMPSON, J. B., elected Oct. 4, 1860; on council 1862 to date; contributed on the following subjects:—On a direct-acting pumping engine at Towneley Colliery, xv. 157.—On the duty of Cornish and other pumping-engines, xix. 201.—Discussed, 219.—Translation of M. F. L. Cornet's and M. Briart's paper, On natural pits in the coal-measures of Bel-

gium, xxiii. 67.—On the coal-fields and mining industries of Russia, xxiv. 3.

Simpson, J. H., elected 1862, resigned 1863.

Simpson, L., elected 1855, died 1875.

Simpson, R., elected Aug. 21, 1852.

Simpson, R., elected Dec. 4, 1875.

Simpson, R. L., elected 1861, resigned 1864.

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Small, G., elected June 4, 1870.

Smallman, J. H., elected 1861, resigned 1863.

Smallshaw, J., elected Nov. 7, 1874.

Smith, C., elected 1856, resigned 1863.

Smith, C. F. S.; on the winning at Cinder Hill Colliery, Nottingham, x. 149.

Smith, C. J., elected July 2, 1872.

Smith, E. J., elected Oct. 7, 1858.

Smith, G. F., elected Aug. 5, 1853.

Smith, H. N., elected 1867, resigned 1868.

Smith, J., elected March 7, 1874.

Smith, J., jun., elected Feb. 4, 1853; resigned 1871.

Smith, R. A., elected Nov. 7, 1874.

Smith, R. C., elected life member Dec. 5, 1874.

Smith, T. E., M.P., elected Feb. 5, 1870.

Smith, T. E., elected Dec. 5, 1874.

Smith, T. M., elected Sept. 2, 1871; resigned 1876.

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Snowball, J., elected 1866, resigned 1870.

Snowdon, T., elected August 1, 1868; resigned 1871.

Snowdon, T., elected Sep. 4, 1869.

Snowdon, W., elected Mar. 4, 1876.

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Sopwith, A., elected graduate 1864; member, Aug. 1, 1868.

Sopwith, T., F.G.S., elected May 6, 1853; contributed a paper, On the lead mining districts of the north of England, xiii. 187.

Sopwith, T., jun., elected graduate Nov. 2, 1867; member, 1875.

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SOUTHALL, F., elected Feb. 5, 1876.

SOUTHERN, E., elected 1855, resigned 1857.

SOUTHERN, E. O., elected student Dec. 5, 1874.

SOUTHERN, G., elected 1853, resigned 1854.

SOUTHERN, G. W., elected 1854; on council 1865–6; hon. member 1866; died 1874.

SOUTHERN, J. M., elected 1853, resigned 1863.

SOUTHERN, R., elected Aug. 3, 1865.

SOUTHERN, W. J., elected student Aug. 1, 1874.

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SPENCE, J., elected July 2, 1872, resigned 1874.

SPENCE, J., elected Nov. 7, 1874.

SPENCER, J., elected Sept. 4, 1869.

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SPENCER, J. F., elected Aug. 2, 1866; on council 1866 to 1868; vice-president 1868; resigned 1868.

SPENCER, J. P., elected Dec. 5, 1874.

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SPOONER, P., elected Dec. 4, 1869.

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STEELE, C. R., elected Mar. 3, 1864.
STENSON, W., elected 1853, resigned 1858.
STENSON, W. T., elected Aug. 5, 1853; resigned, 1875.
STEPHENSON, G. R., elected Oct. 4, 1860.
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STEPHENSON, R., elected 1852, Vice-President 1853-4, died 1859.—Bequest of £2,000, viii. 8.

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Stevenson, R., elected Feb. 5, 1876.

Stobart, F., elected student, Aug. 2, 1873.

Stobart, H. S. elected Feb. 2, 1854; on council 1864 to 1866, 1869 to 1870.

Stobart, H. S., jun., elected 1859, resigned 1861.

Stobart, W., elected 1853, resigned 1863.

Stobart, W., elected July 2, 1872.

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Storey, T. E., elected Feb. 5, 1876.

Stott, G. elected 1853, resigned 1864.

Stott, J., elected 1855, resigned 1873.

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Straker, J. H., elected Oct. 3, 1874.

Stratton, T. H. M., elected student, Dec. 3, 1870.

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Sutherst, T., elected Nov. 7, 1874.

Swallow, J., elected Aug. 6, 1863.

Swallow, J., elected May 2, 1874.

Swallow, R. T. elected 1862.

Swan, C., elected April 11, 1874.

Swan, H. F., elected Sep. 2, 1871.

Swan, J. G., elected Sep. 2, 1871.

Swann, C. G., elected Aug. 7, 1875.

Swinney, A. J., elected student, Feb. 5, 1876.

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Taylor, G., elected June 5, 1875.

Taylor, H. elected 1853; Vice-President 1863 till 1867; died 1868.—Contributed a paper, On analyses of rocks of coal formation, iii, 11.

Taylor. H., jun., elected Sept. 5, 1856.

Taylor, J., elected Aug. 1, 1852; on Council 1852 till 1857, 1863-64, and 1865-66; Vice-President 1866 till 1868; on council 1868-9.—Contributed a paper, On coal-mining, xii. 149.

Taylor, J. B., elected May 3, 1873.

Taylor, Professor, On the formation of hydrogen in boilers. xi. 47.

Taylor-Smith, Thomas, elected Aug. 2, 1866.

Taylor, T., elected July 2, 1872.

Taylor, T. J., elected 1852; Vice-President 1852 till 1861; died 1861; memoir of his life, by N. Wood, ix. 237; his evidence on steam jets referred to, i. 57.—Contributed on the following subjects: Value of steam jet compared with furnace ventilation, i. 203.—Proof of the subsistence of fire-damp in a state of tension in coal mines, 275.—Notes on J. J. Atkinson's theory of ventilation, iii. 347.—On draining, v. 135.—The Ryhope sand stratum, 148, 154.—Variation of density of air circulating in coal-mines, vii. 129. Tyne low main seam, viii. 97.—Burradon explosion, 161.

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Telford, W. H., elected student Oct. 3, 1874.

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Terry, E., elected Sept. 13, 1873.

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Thomas, A., elected Mar. 2, 1872.

Thomas, G., elected 1861, resigned 1865.

THOMAS.

Thomas, H. W., elected 1857, resigned 1861.

Thomas, J. T., elected 1856, resigned 1859.

Thomas, W., elected 1853, resigned 1858.

Thomas, W., elected Feb. 2, 1867; resigned 1870.

Thompson, A., elected 1862, resigned 1866.

Thompson, Astley, elected 1864.

Thompson, J., elected Sept. 2, 1865.

Thompson, J., elected Feb. 2, 1867; resigned 1868.

Thompson, J., elected April 6, 1867.

Thompson, James, elected June 2, 1866.

Thompson, James A., elected Oct. 3, 1874.

Thompson, John, elected Oct. 4, 1860.

Thompson, R., jun., elected Sept. 7, 1867.

Thompson, T. C., elected May 4, 1854.

Thompson, W., elected student May 2, 1874.

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Thomson, G., elected Nov. 7, 1874.

Thomson, Jos. F., elected Feb. 6, 1875.

Thorman, J., elected 1861, died 1869.

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Thorpe, R. S., elected Sept. 5, 1868.

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Tinn, J., C.E., elected Sept. 7, 1867.

Todd, H. W., elected 1853, resigned 1857.

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Tone, J. F., elected Feb. 7, 1856; on council 1867-8.

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VAUGHAN, T., elected 1857.

VAUGHAN, W., elected 1857, resigned 1865.

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Walker, S., elected student Dec. 4, 1875.

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Walton, W., elected Feb. 1. 1867.

Wand, B. W., elected Dec. 5, 1874.

Ward, H., elected March 6, 1862.

Ward, J., elected student Nov. 6, 1872; resigned 1874.

Wardale, J. D., elected May 1, 1875.

Wardell, F. N., elected 1864, hon. member 1868.

Wardell, S. C., elected graduate April 1, 1865; member 1874.

Warden, —., elected 1862, resigned 1864.

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Watson, H., elected March 7, 1865.

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Watson, M., elected graduate March 7, 1868; member 1870.

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Weston, W., elected Sept. 3, 1870.

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WHITE, J. F., elected student July 2, 1872; member 1873.

WHITE, J. T., elected Mar. 1, 1866; resigned 1873.

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WHITELAW, A., elected Mar. 5, 1870.

WHITELAW, J., elected Feb. 5, 1870.

WHITELAW, T., elected April 6, 1872.

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WHITWELL, T., elected Sept. 5, 1868.

WIDDAS, C., elected Dec. 5, 1868.

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WIGHT, R., elected Oct. 11, 1873.

WIGRAM, R., elected Feb. 6, 1875.

WILD, H. F., elected Oct. 3, 1874.

WILD, J. G., elected graduate Oct. 5, 1867; member 1873.

WILKINSON, G. W., elected May 4, 1872; resigned 1875.

WILKINSON, W., elected March 1, 1873; resigned 1876.

WILLIAMS, E., elected Sept. 2, 1865.

WILLIAMS, J. J., elected Nov. 2, 1872.—Contributed a paper, On the mineral resources of Flintshire and Denbighshire, xxv. 81.

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WILLIAMS, J. L., elected Nov. 6, 1872; resigned 1876.

WILLIAMS, R., hon. member 1858 to 1863.

WILLIAMSON, J., elected Sept. 2, 1871.

WILLIAMSON, J., elected Nov. 2, 1872.

WILLIAMSON, J. E., elected student Nov. 7, 1874.

WILLIS, E., elected Sept. 5, 1868.

WILLIS, J., elected March 5, 1857; hon. member 1871; on council 1870 to date.

WILMER, F. B., elected June 6, 1856; resigned 1876.

WILSON, J., elected July 2, 1872.

WILSON, J. B. elected Nov. 5, 1852.

WILSON, J. D., elected student Sept. 11, 1875.

WILSON, J. T., elected student Nov. 7, 1874.

WILSON, J. S., elected Dec. 2, 1858.

WILSON, R., elected April 3, 1856; resigned 1874.

WILSON, R., elected Aug. 1, 1874.

WILSON, T. H., elected March 6, 1869.

WILSON, T. M., elected 1864, resigned 1866.

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